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Oral High-Dose Methylprednisolone and Intravenous Immunoglobulin Treatments in Adult Chronic Idiopathic Thrombocytopenic Purpura

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Ten adult patient of chronic idiopathic thrombocytopenic purpura (CITP) used oral prednisone and were treated with seven doses of oral high-dose methylprednisolone (30 mg/kg). Nine of ten patients responded after HDMP treatment (plt > 150 × 10^9/L). Two patients having 8 and 10 years of history achieved long-term remission after first HDMP treatment. One unresponsive and one responsive patients did not accept IVIG treatment as second therapy and lost the follow-up. The remaining six patients received IVIG (0.5 mg/kg for 5 days) as second therapy after 3 months. Platelet count increased above 150 × 10^9/L in 4 patients and between 60–80 × 10^9/L in 2 patients. The peak platelet counts of both therapy users were higher under HDMP than IVIG therapy (252 ± 110.4 vs 174.2 ± 83.7 × 10^9/L), but the difference was not significant. Responses were transient and returned to pretreatment values at 14–30 days, excluding long-term remission of 2 (2/10) patients after HDMP treatment. No side effect was observed. Thus, oral HDMP appears a good initial therapy for continuous remission in a small ratio of patients and a good security for emergency situations and prior to surgery in adult CITP patients. Am. J. Hematol. 56:191–192, 1997. © 1997 Wiley-Liss, Inc.

Key words: chronic; adult idiopathic thrombocytopenic purpura; high-dose; oral methylprednisolone; intravenous immunoglobulin

INTRODUCTION

Oral prednisone and high-dose intravenous immunoglobulin (IVIG) are usual first-line treatments of chronic idiopathic thrombocytopenic purpura (CITP) in adults [1]. Intravenous high-dose methylprednisolone (HDMP) was also reported as an alternative treatment with a high response ratio in children [2] and a small series of adults [3–5]. Akoğlu reported a good response in 7/9 of adult patients with HDMP (30 mg/kg for 3 days, 20 mg/kg for 4 days, then subsequently 10, 5, 2, 1 mg/kg a week each) and the long-term response in one of them. In another two studies, HDMP or IVIG was used as the header therapy before prednisone. Gadeau et al. [5] gave intravenous HDMP (15 mg/kg for 1–3 days) to eight refractory patients of adult CITP and obtained response in 5/8 of patients. One patient achieved long-term partial remission after HDMP treatment. Van dem Borne and coworkers compared the initial effects of intravenous HDMP (1 g for 3 days) in 10 patients and IVIG (0.4 g/kg for 5 days) in 12 patients during the first attack. The effect of intravenous corticosteroids was even faster than that of IVIG, although the difference was not statistically significant. However, the studies of both Van dem Borne and Gadeau and their colleagues did not have the appropriate design to evaluate HDMP or IVIG treatments, excluding the first days, because prednisone (20–40 mg/day) was started after initial treatments.

Oral use of HDMP was reported in childhood acute ITP with equal effect of intravenous use. This facilitated the use of HDMP. We report our experience on oral use of HDMP treatment in 10 patients of adult CITP and, in addition, on the comparison of HDMP and IVIG treatments in 6 patients.

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TABLE I. Characteristics of the Patients of CTIP and Results of HDMP and IVIG Therapies[a]

Pt	Sex	Age (year)	Previous therapies	Duration of ITP	Pretreatment (plt)	Peak plt (day) in HDMP	Peak plt (day) in IVIG
1	f	30	pred	10	36	265 (14)	ltrem
2	m	20	pred	8	4	311 (14)	ltrem
3	f	17	pred	13	42	300 (8)	237 (8)
4	f	20	pred	1	19	440 (8)	167 (8)
5	f	29	pred	2	13	203 (8)	263 (8)
6	f	36	pred	1	10	244 (8)	221 (8)
7	f	17	pred	1	17	212 (8)	93 (8)
8	m	64	pred	1	48	113 (4)	54 (8)
9	f	40	pred	3	24	304 (8)	—
10	m	61	pr + spl(dia)	13	4	34 (4)	—

[a]plt: platelet × 10^9/L; ltrem: long-term remission; spl: splenectomy; dia: diabetes mellitus; pred: prednisone 1 mg/kg.

MATERIALS AND METHODS

Ten patients were included in the study to receive HDMP as first-line treatment and IVIG as second-line treatment (Table I). ITP had been diagnosed 1–13 years previously (median 3 years). All the patients had previously received prednisone orally (1 mg/kg/day). Secondary causes of thrombocytopenia were excluded. One patient had diabetes mellitus controlled by diet. He had 13 years of ITP history and had been splenectomized 10 years ago. Corticosteroid treatment had been discontinued more than 3 months before treatment, if it had been used. Oral HDMP (30 mg/kg for 7 days) was given and platelet counts were measured at baseline and days 2, 4, 8, 14, 30, and 60 as elsewhere reported [6]. Nine of ten patients responded after HDMP treatment (plt > 150 × 10^9/L). Two patients having 8 and 10 years of history achieved long-term remission after the first HDMP treatment. The highest level of blood sugar of the unresponsive diabetic patient was 240 mg/dl during HDMP treatment and returned to normal value without insulin use. This unresponsive and another responsive patient did not accept IVIG treatment as second therapy and were lost to follow-up. The remaining 6 patients received IVIG (0.5 mg/kg for 5 days) as second therapy after 3 months. Platelet count increased above 150 × 10^9/L in 4 patients and between 60–80 × 10^9/L in 2 patients. Platelet counts were higher in all days of HDMP treatment although differences were not statistically significant. Peak values were usually obtained at day 8 in both groups. The peak platelet counts of both therapy users were higher under HDMP than IVIG therapy (252 ± 110.4 vs. 174.2 ± 83.7 × 10^9/L), but the difference was not significant. Responses were transient and returned to pretreatment values at 14–30 days, excluding long-term remission of 2 patients after HDMP treatment. The platelet counts of one patient was around 50 × 10^9/L after HDMP treatment and remained 80 × 10^9/L after IVIG treatment.

Our results showed oral HDMP was an effective first-line treatment in adult CITP. The long-term remission obtained in 2 patients was important even if the ratio was not high (2/10). Oral treatment was well tolerated by patients. Only one patient complained of gastric discomfort, which was relieved with antacid treatment. When HDMP and IVIG treatments were compared, HDMP treatment increased platelet counts higher (5/6 of patients) than IVIG. The difference between two groups might be significant with the increase in case number. The possible addictive effect of HDMP to IVIG must also be kept in mind.

In conclusion, oral HDMP (30 mg/kg for 7 days) was an effective first-line treatment in adult CITP as well as IVIG. It can be used in controlling the bleeding and before elective surgery. The small ratio of long-term remission may be a sufficient cause to try a course of HDMP in all CITP patients.

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